

Notice of Allowability

Application No.

10/798,574

Examiner

Thomas L. Dickey

Applicant(s)

KIM, HOON

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to amendment filed 12/11/06.
2. ☒ The allowed claim(s) is/are 1,5-13,15,16,21 and 22.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 12/11/06
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

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REASONS FOR ALLOWANCE

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under Ex Parte Quayle, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 12/11/06, including a claim amendment and an IDS, has been entered.

It is noted that changes made to claim 6 (the only amended claim) appear to correct typographical and grammatical errors and have no relation, in the Examiner's opinion, to the patentability of claim 6.

Reasons for Allowance

2. The following is an examiner's statement of reasons for allowance:

On 12/11/06 Applicant filed two references purported to affect the patentability of the claims. In the Examiner's opinion, the device disclosed by the first of these references, JP-2001320062-A , bears no reasonable resemblance to the claimed device. In the

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claimed device, the buffer layer has a step and thus an uneven thickness, while the gate insulation layer is required to be of even thickness. In the device disclosed by JP-2001320062-A, there is no buffer layer whatever, while gate insulation layer has a step and is thus of uneven thickness.

The device disclosed by JP-2002033330-A, on the other hand, bears a close resemblance to the device claimed in claims 1 and 13. Like the claim 1 and claim 13 devices, this device is a thin film transistor comprising a buffer layer 100c formed on a substrate 1001; an activation layer 102-103-104-105-106 formed on buffer layer 100c; and a gate insulation layer 107 formed on said substrate 1001 including said activation layer 102-103-104-105-106, with said buffer layer 100c having a step (note paragraph 0123 of US-20020017685-A1, the English language equivalent of JP-2002033330-A) formed between a lower part of said activation layer 102-103-104-105-106 and a part except said lower part of said activation layer 102-103-104-105-106, and said step being a half or less of the thickness sum of said activation layer 102-103-104-105-106 and gate insulation layer 107. Note figures 11A-11D of JP-2002033330-A.

However, Applicant's claims 1 and 13 recite the further limitation of the gate insulation layer being "deposited to an even thickness" (CLAIM 13), or "not changed" (CLAIM 1) on a sidewall of said activation layer. "Even," and "not changed," mean, "neither reduced nor increased," in this context. In paragraph 0008 and figure 2 of the

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instant application Applicant teaches us to measure the “evenness” of the gate insulation 130 on activation layer 120 sidewall by comparing a horizontal thickness of gate insulator 130 at point B1 to a horizontal thickness of gate insulator 130 at point B2. In figure 2 the thickness at B2 is less than the thickness at B1, so that, in Applicant’s words, the “thickness of the gate insulation layer on the side wall of the activation layer is reduced.” The invention Applicant claims in claims 1 and 13 is one in which the gate insulation thickness at B1 is the same as at B2, yielding an “even” sidewall thickness that is “not changed.” An eyeball approximation of the relative B1 and B2 thicknesses of gate insulation film 107 of JP-2002033330-A’s figure 11D leads one to the conclusion that gate insulation film 107 at least appears to have an even thickness. However, in JP-2002033330-A, figure 11D is not identified as drawn to scale. The US-20020017685-A1 (English language equivalent of JP-2002033330-A) specification is completely silent on the issue of whether gate insulation film 107 is of even thickness on the side of activation layer 102-106. For this reason there is no evidence that the device of JP-2002033330-A includes the “even” or “not changed” gate insulator sidewall thickness limitations of claims 1 and 13. See MPEP §2125.

It should be noted that the “even” and “not changed” gate insulator sidewall thickness limitations were added to claims 1 and 13 on 8/28/06. It may be that the art

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Applicant has supplied purports only to anticipate claims 1 and 13 in the state in which they existed before 8/28/06.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

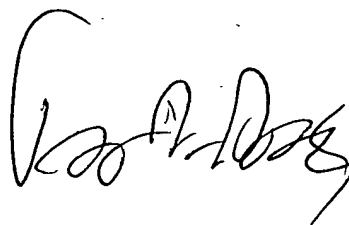
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas L. Dickey whose telephone number is 571-272-1913. The examiner can normally be reached on Monday-Thursday 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sue Purvis can be reached on 571-272-1236. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Thomas L. Dickey', with a stylized, cursive script.

Thomas L. Dickey
Primary Examiner
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